

## Correspondence

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TO THE EDITOR, *Genitourinary Medicine*

### Biological false positive reactions in treponemal serological tests used to diagnose syphilis

Sir,  
Since 1978 we have used two treponemal serological tests in Denmark, the fluorescent treponemal antibody absorbed (FTA-ABS) test and the *Treponema pallidum* immobilisation (TPI) test, as second line tests in the diagnosis of syphilis.<sup>1,2</sup> Reactivity in one or both of these specific treponemal serological tests is often regarded as a major indication of past or present treponemal infection. About 5000 to 7000 serum samples, taken from patients with or without anamnestic support or signs or symptoms of syphilis attending sexually transmitted disease (STD) clinics or doctors in Denmark, have been analysed each year. Biological false positive reactions occurred in 2% of FTA-ABS and TPI tests when healthy blood donors were examined (table). None of the blood donors tested were reactive in both FTA-ABS and TPI tests (table),

The Danish syphilis index, which contains information about most treponemal infections diagnosed in Denmark since 1920, was used in the classification of the patients.<sup>4</sup> None of the above STD patients with biological false positive reactions in the FTA-ABS or TPI tests later developed syphilis, and most of these patients became non-reactive in the treponemal serological tests without receiving antitreponemal antibiotics.

The CWRM test used in the department of treponematoses as a lipoidal serological screening test has, in comparison, a specificity of 99.8%.<sup>3</sup> Biological false positive reactions in the CWRM test are therefore seen in only 0.2% of the serum samples examined, compared with 2-3% in the FTA-ABS or TPI tests.

In conclusion, patients showing reactivity in only one treponemal serological test without having other positive indications of syphilis may often be considered to be biological false positive reactors. The treponemal serological tests should never be used as screening tests in the diagnosis of syphilis, as these tests only have a "high specificity" when they are used as

- Welfare. *Manual of tests for syphilis*. Washington DC: US Government Printing Office, 1969 (Publication No 411).
2. Nielsen HAE, Reyn A. The *Treponema pallidum* immobilization test. *Bull WHO* 1956;14:263-88.
3. Schmidt H. Cardiolipin antigen I. A qualitative examination of sensitivity and specificity. *British Journal of Venereal Diseases* 1951;27:23-33.
4. Reyn A. The syphilis index at Statens Seruminstitut, Copenhagen. *Dan Med Bull* 1954;1:211-3.

TO THE EDITOR, *Genitourinary Medicine*

### Is there a critical time for prophylaxis against neonatal gonococcal ophthalmia?

Sir,  
Gonococcal infections are common in women attending gynaecological and obstetric services in Addis Ababa.<sup>1</sup> In the absence of effective prophylaxis, attack rates of neonatal gonococcal ophthalmia (NGO) may be as high as 30%.<sup>2</sup> Though the statutory use of prophylaxis against NGO has been in effect for more than six decades, the timing of such a procedure in relation to birth has not been clearly established. As the use of silver nitrate is associated with high incidence of chemical conjunctivitis,<sup>3</sup> it has been recommended that the administration of prophylaxis should be withheld for a few hours after birth to promote bonding between infant and mother.<sup>4</sup> We recently had an opportunity to study the effect of delay in the application of prophylactic eye treatment on the prevention of NGO in Addis Ababa when the routine use of both silver nitrate and tetracycline ointment was disrupted because of irregular drug supply.

All infants born in this hospital and its affiliated maternal and child health clinics were traced and examined between the fourth and seventh day after birth. When available, prophylaxis was given before discharge from hospital. The infant's age at prophylaxis was noted. Neonatal ophthalmia was diagnosed when there was purulent or mucoid discharge. NGO was diagnosed when Gram negative intracellular diplococci were identified in the eye discharge. The presence of Gram negative intracellular diplococci in such inflammatory exudate can identify

TABLE *Biological false positive reactions in the fluorescent treponemal antibody absorbed (FTA-ABS) test and the Treponema pallidum immobilisation (TPI) test in serum samples from patients attending STD clinics in Denmark and in healthy blood donors*

Source of serum samples	n	No (%) giving following reactions:			
		FTA-ABS-TPI-	FTA-ABS+TPI-	FTA-ABS-TPI+	FTA-ABS+TPI+
Healthy blood donors	302	291 (96)	6 (2)	5 (2)	
STD patients (no syphilis)	883	829 (94)	26 (3)	27 (3)	

+ = Positive, - = negative reactions.

however, and none were reactive in the automated reagin test (ART).<sup>2</sup>

In 1980-1 we found that 53 out of 883 serum samples examined from patients attending STD clinics (none of whom gave a history of syphilis, had signs or symptoms suggesting recent syphilis infection, or were reactive in the cardiolipin Wassermann test with Mørch's modification (CWRM) and in the Kahn's standard test<sup>3</sup> gave biological false positive reactions in the FTA-ABS or the TPI test (table).

confirmatory tests on highly selected serum samples from patients who have had, or are suspected of having, a treponemal infection.

Yours faithfully,  
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#### References

1. US Department of Health, Education and